

the surface of the ovum, and when the dark masses and the dissepiments have attained a sufficient concentration. The central rosettes, or large rosettes of Ludwig, are purely imaginary phenomena, assumed (rather than observed) in accordance with an illegitimate analogy between the phenomena witnessed at the surface of the ovum and those which are supposed to take place in its depths.

To sum up, the protoplasm, in the Araneida, moves from the centre towards the periphery, where it makes its appearance in the form of disks or *cones of ejection*, surrounded by the spheres of the rosette, which may be compared to *cones of elevation*. There is *eruption* through a *chimney*, which subdivides towards the centre of the ovum. By this means the ovum is transformed into a meroblastic ovum with multiple cicatriculæ. This is the end of the first phase.

During the second phase the regular meroblastic segmentation of the cicatriculæ takes place. The nuclei divide, and with them the dark stellate forms, and the rosettes of Ludwig. In this way is produced a second generation of stars and rosettes. As this goes on the granules and the protoplasm of the generative areas are attracted by the dark disks, which finally absorb them entirely. In the third generation the brilliant rosettes cease to be visible, which is due to the disappearance of the thick dissepiments of protoplasm and their absorption into the dark disks.

The protoplasm of the surface continues segmenting, and finally forms a single layer of flattened polygonal cells. This is the blastoderm, which covers the whole surface of the ovum.

In none of the species that I have studied have I found the central cavity or blastocœle, any more than the radial orientation of the vitelline masses, such as are described and figured by Ludwig.

From these observations it results that the ovum of the Spider presents an intermediate type between the ova with general superficial segmentation of the Crustacea, such as *Peneus*, and the ova with regular discoidal segmentation, such as those of certain fishes; that is to say, it has a blastulation intermediate between periblastulation and discoblastulation. It greatly approaches the ova of *Chelifer* (Metschnikoff), *Tetranychus* (Claparède), and of insects (Bobretzky). Thus is plainly manifested from the outset the affinity of the Araneida with other groups of Arachnida and with the insects.

My observations have been made upon the ova of *Pholcus opilionides*, *Epëira diadema*, *Epëira fasciata*, *Agelena labyrinthica*, *Latrodectus malmignatha*, and some small undetermined species.—*Comptes Rendus*, January 24, 1881, p. 200.

Acineta dibdalteria, a new Species of Marine Infusorian from the Gulf of Genoa. By Dr. CONRAD PARONA.

When seeking Protista at Sestri Levante (Riviera di Genova) and in the sea-water that I had brought home with me for subsequent study, I found last September a new Acinetine, which struck me by its very peculiar characters, and especially by the suckers, which are not borne by a trunk and are not ramified.

I ascertained at once that I had to do with a form of the genus *Acineta*. We find this *Acineta* solitary and attached by means of a slender peduncle to the various Algæ; and it is tolerably abundant. The test, protoplasm, and nucleus did not greatly engage my attention; but the suckers are very remarkable: in fact, instead of being of a certain number, collected into bundles and arranged symmetrically on one side and the other of the body, or distributed over the whole of the free surface of the protoplasm corresponding to the aperture of the test, they are only two in number, placed opposite one another. Whilst in the other *Acinetæ* these sucking-tentacles are slender, more or less long, and usually rigid, in this they are flexible in all directions and very mobile, so that we see them move and twist about continually.

In accordance with these remarkable characters, which I have not met with in any *Acineta* hitherto described, I think I may establish, if not a new genus (so as not to complicate further the divisions of this group), at least certainly a new species, under the name of

Acineta dibdalteria, sp. nov.

Diagnosis. Test in the form of a wine-glass; peduncle slender; tentacles of a single kind; protoplasm granular, more transparent at the periphery; contractile vesicle large; nucleus in the shape of a horse-shoe, and placed towards the lower part of the protoplasmic mass. Only two tentacles, which are at the same time suctorial and prehensile, movable in all directions; peduncle straight, slender, of uniform diameter, and only a little widened towards the base to attach itself more firmly to the plant which bears it.

Dimensions.

	millim.
Transverse diameter of the test (maximum)	0·06
Vertical diameter of the test	0·05
Length of the peduncle	0·03
Breadth of the peduncle	0·01
Length of the suckers	0·04

From these characters it seems to me that this form cannot be confounded with its congeners. In fact, if we run over the figures of those which are at present known, we shall see that none of them approaches the species just described. In reality there is no *Acineta* that presents tentacles reduced to two only.

We have here a very remarkable example of anatomical and functional retrogression. The organs having been reduced, the functions have been concentrated. The differentiation of the suctorial and prehensile tentacles having ceased or being absent, the two correlative functions have been compelled to combine in the same organ, which, in its turn, in order the better to perform its now multiple part, has been obliged to modify and adapt itself. We have evidence that this must have taken place when we find that whilst in the other *Acinetæ* the tentacles are usually rigid and motionless, in the present case, as we have already said, they are flexible and movable in all directions.—*Bibliothèque Universelle; Archives des Sci. Phys. et Nat.*, February 15, 1881, p. 181.